

ABSTRACT

MICROMACHINED GYROSCOPIC SENSOR WITH DETECTION IN THE PLANE OF THE MACHINED WAFER

The invention relates to a microgyroscope, that is to say an inertial micromechanical sensor dedicated to the measurement of angular velocities, which is produced by micromachining techniques on a silicon wafer.

The gyroscope comprises two symmetrical moving assemblies (30, 50; 30', 50') coupled via a coupling structure (20, 20', 22). Each of the two assemblies comprises a moving mass (30) surrounded by a moving intermediate frame (50). The frame (50) is connected to the coupling structure (20, 20', 22) and can vibrate in two degrees of freedom in orthogonal directions Ox and Oy in the plane of the wafer. The mass (30) is connected on one side to the frame and on the other side to fixed anchoring regions (34, 36) via linking means (40-46; 52-58) that allow the vibration movement along the Oy direction to be transmitted to the mass without permitting movement of the mass along the Ox direction. An excitation structure (70) is associated with the frame in order to excite its vibration along Ox. A movement detection structure (90) is associated with the mass (30) in order to detect its vibration along Oy.

Figure 1.